NewsRelease

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NASA LANGLEY FORECAST

Returning Space Shuttle to flight, New ideas for managing air traffic, In the movies, "Flying wing" to be tested, Raising aircraft IQ

LANGLEY WORKING TO RETURN SHUTTLE TO FLIGHT. Researchers at NASA Langley Research Center are directly involved with making sure the next Shuttle mission, STS-114, makes it safely into space and back. One group is evaluating ways that will remove insulating foam from critical areas of the external tank so it cannot shed and cause damage. Another group is looking at on-orbit repair to the leading edge of the Shuttle's wings. (The leading edge of Columbia's left wing sustained significant damage when struck by foam from the external tank after liftoff.) One repair scenario includes preformed sections of a special carbon silicone carbide material that will fit over any damaged wing areas. The challenge is to determine what affect the "wing wrap" repair will have on the aerodynamics of the wing. Wind tunnel tests are underway. Shuttle tires and landing gear assemblies are also being tested at the 200 mile-per-hour Aircraft Landing Dynamics Facility.
For more information, call Bill Uher at 757-864-3189 or email w.c.uher@larc.nasa.gov

A NEW WAY TO HANDLE FUTURE AIR TRAFFIC? Airline pilots will link up with air traffic controllers by computer in NASA laboratories on opposite sides of the country this summer to evaluate new air traffic management technology. Researchers at NASA's Langley Research Center and Ames Research Center at Moffett Field, Calif., are studying ways to improve efficiency and reduce air travel delays. One promising approach is to use technology on board aircraft to supplement overburdened air traffic control systems. Real-life pilots and air traffic controllers will put the "autonomous flight management" concept to the test in a joint simultaneous simulation at Ames' Airspace Operations Laboratory and Langley's Air Traffic Operations Lab.
For info, call Kathy Barnstorff at 757-864-9886 or email Kathy.Barnstorff@nasa.gov

NASA IS 'BREAKING NEWS' ON THE BIG SCREEN. This summer, as movie-goers wait in line to purchase tickets at Regal Cinemas movie theaters across the country, they will get a lesson in science, technology, math and engineering as a NASA feature becomes part of the movie preview line-up. Regal Cinemas is adding NASA to their preview venue through a partnership with NASA Langley's Center for Distance Learning. A series of one-minute newsbreaks, called NASA's Kids Science News Network (KSNN), will be shown in the lobbies of Regal Cinemas theaters nationwide, starting mid-June.
For information, call Kimberly Land at 757/864-9885 or email k.w.land@larc.nasa.gov

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"FLYING WING" CONCEPT TO BE TESTED. In a joint effort between NASA and Boeing, a "flying wing" aircraft design will begin preliminary testing in a high-pressure, super-cold wind tunnel at NASA Langley. Called Blended Wing Body (BWB), the aircraft design can be traced back to the 1930s when John Northrop built the first “flying wing." The advantage of the unusual shape is in the wing’s ability to provide great lift. The military is potentially interested in the capabilities of such an aircraft, especially for materiel transport and aerial tanker operations. The tunnel -- the National Transonic Facility -- accurately tests scale models at speeds and conditions simulating actual flight.
For more information, call Bill Uher at 757-864-3189 or email w.c.uher@larc.nasa.gov

WATCH OUT, ROUGH AIR AHEAD! A technology that can automatically alert pilots of turbulence ahead will soon make its first evaluation flights on board a commercial airliner. Researchers at NASA’s Langley Research Center developed the Turbulence Prediction and Warning System or TPAWS to detect turbulence associated with thunderstorms as part of the NASA Aviation Safety and Security Program. NASA has teamed with Delta Air Lines, AeroTech Research and Rockwell Collins for an in-service evaluation of a production-prototype airborne radar unit with turbulence hazard prediction capabilities.
For info, call Kathy Barnstorff at 757-864-9886 or email Kathy.Barnstorff@nasa.gov

RAISING AIRCRAFT IQ TO REMAIN COMPETITIVE. Imagine aircraft that can change their shape in flight to make the ride smoother, quieter, more efficient and safer. Imagine aircraft structures made of new, super-strong, ultra lightweight materials that weigh half as much as conventional aluminum structures. Imagine an aircraft with a built-in “central nervous system” that will allow it to determine if anything is wrong and then fix the problem without pilot intervention. The Integrated Tailored Aero Structures project at NASA Langley Research Center is leading innovative research programs that will make today’s state-of-the art aircraft appear primitive by comparison. These new technologies and new collaborative research methods will help the U.S. aviation industry remain competitive in the global marketplace.
For more information, call Bill Uher at 757-864-3189 or email w.c.uher@larc.nasa.gov

Speaker series:

Reporters are invited to preview talks at afternoon presentations to employees at NASA Langley. The public is invited to evening talks at the Virginia Air & Space Center, Hampton. For information, call Kimberly W. Land at 757/864-9885 or email k.w.land@larc.nasa.gov

July 13 -- Electronic Textiles
August -- TBD
September 14 -- Advanced Materials Research

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